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MEMORANDUM

June 2, 2014

To: David L. Eaton
Vice Provost and Dean
The Graduate School

From: John T. Slattery
Vice Dean for Research and Graduate Education
School of Medicine

Re: Computational Molecular Biology Graduate Certificate 2013-2014 Review

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This memorandum outlines the recommendations for the Computational Molecular Biology Graduate Certificate academic program review. I served as the proxy Dean for this review since the program is situated administratively in the Graduate School.

Detailed comments on the review can be found in the documents that were a part of the following formal review proceedings:

- Charge meeting between review committee, program, and administrators (November 18, 2013)
- Program self-study (December 2, 2013)
- Site Visit (January 27, 2014)
- Review committee report (February 5, 2014)
- Program response to the review committee report (February 26, 2014)
- Graduate School Council consideration of review (April 3, 2014)

The review committee consisted of the following faculty:

Adrienne Fairhall, Associate Professor, UW Department of Physiology and Biophysics, (Committee Chair)
Peter Myler, Professor and Director, Core Services, Seattle Biomedical Research Institute, Affiliate Professor, Departments of Global Health and Biomedical Informatics and Medical Education

A subcommittee of the Graduate School Council presented a summary of findings and recommendations on the five-year review of the Computational Molecular Biology Graduate Certificate to the full Council at its meeting on April 3, 2014. Following are the specific comments and recommendations regarding the Graduate Certificate review.

The Computational Molecular Biology program is an interdisciplinary certificate program. The steering committee is comprised of faculty from the Departments of Genome Sciences, Computer Science and Engineering, Bioengineering, Biology, Applied Mathematics, and Microbiology. It was founded in 1999 and received official certificate status in 2008.

Program Strengths

The review committee considered the program to be "a very positive force on campus . . . in a subject area that is at the cutting edge and rising in importance."

- The coursework has been valuable for past participants, as have the research opportunities made available through the laboratory work.
- Students value their interactions with each other and with the program's faculty.
- Brian Giebel's role as program administrator is viewed as very helpful to the program's success.

Challenges and Risks

- The program would be stronger with participation of students and faculty from more departments. Currently, most participants come from a few core departments.
- The required coursework is better suited for Genome Sciences students but broadening the core courses should be considered to make the program more attractive to other students.
- The course schedule is a logistical barrier for students in other departments. Flexibility of the program requirements is encouraged to address requirements that are problematic for students in other departments such as the lab rotations, and some departments require teaching assistantships. Clarification and better communication to students about the program requirements would be helpful.
- Communication about activities—the seminar series, journal club, and the yearly symposium, and expectations of student attendance needs improvement.
- Efforts should be made to develop more of a community among students and the program.
- Some of the participating departments are effective with recruiting incoming graduate students to the program, but more could be done to enhance its visibility.
- The program is encouraged to investigate interactions with Data Science, and also pursue external funding opportunities, e.g. the National Science Foundation's IGERT program (Integrative Graduate Education and Research Traineeship).

Areas of Concurrence

The program faculty agreed, for the most part, with the recommendations of the review committee. In particular:

- Regarding coursework, the program was resistant to major changes in the course requirements, but the steering committee will consider slightly modifying the requirements to try to achieve broader participation. They will also consider making the lab work requirement more flexible.
- The director, Dr. William Noble, will work with the participating departments to address any logistical barriers.
- The faculty agreed that communication should be improved; several concrete proposals will be implemented, such as weekly emails about upcoming events and annual emails to each student about their status in the program. Other ideas will be discussed with the steering committee.

- Several possibilities will be considered to increase a sense of community that include moving the spring symposium off-campus, holding a one-day fall retreat, and helping to sponsor the visit of Nobel laureate in Chemistry, Michael Levitt, next year.
- Regarding recruiting of incoming graduate students, each participating department will be asked to include a link to the CMB program on their web pages.
- Dr. Noble has begun to investigate grant support because of a very recent announcement of an NIH program in "Predoctoral Training in Biomedical Big Data Science," which would fit very well with the CMB program.

Graduate School Council Recommendations
Overall, the program is doing well. The review committee recommended that the next review occur in 10 years, and we agree with this recommendation.

I concur with the Graduate School Council's comments and recommendation.

cc: Rebecca Aanerud, Associate Dean of Academic Affairs and Planning, The Graduate School
William Noble, Professor, Department of Genome Sciences, Director, Computational Molecular Biology Graduate Certificate Program
Brian Giebel, Academic Manager, Department of Genome Sciences
Adrienne Fairhall, Associate Professor, Department of Physiology and Biophysics, Chair, Computational Molecular Biology Review Committee
Peter Myler, Professor, Seattle Biomedical Research Institute, Affiliate Professor, Departments of Global Health and Biomedical Informatics and Medical Education; Member, Computational Molecular Biology Review Committee Graduate School Council
Augustine McCaffery, Senior Academic Program Specialist, Academic Affairs and Planning, The Graduate School